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## **A new clinical diagnostic matrix for epidermolysis bullosa**

Linked article Vamsi *et al. Br J Dermatol* 2017;

Globally, there are close to 500,000 people living with various forms of the inherited blistering skin condition, epidermolysis bullosa (EB), although most of the comprehensive epidemiological data on EB has been extrapolated from just a few countries.<sup>1</sup> Clinically and genetically, EB is a heterogeneous group of disorders, with at least 33 recognisable phenotypic variants (9 major) and 18 candidate genes listed in a 2014 international consensus report,<sup>2</sup> although new EB genes continue to be added, even in 2016.<sup>3,4</sup> Being able to diagnose EB accurately is an important part of clinical management given the range of disease complications, management concerns, and prognoses associated with the diverse spectrum of EB subtypes.<sup>2</sup> Making rapid and accurate diagnoses of EB may be relatively straightforward in some countries supported by expert clinical teams and specialised laboratories that can assess skin biopsies (immunohistochemistry, transmission electron microscopy) and perform gene sequencing analyses – but such diagnostic infrastructure is often simply not available in many countries, where all that is possible is clinical examination by dermatologists, most of whom are unfamiliar with the nuances of clinical and laboratory diagnostic criteria for EB. To address this shortfall, Vamsi *et al.*<sup>5</sup> set out to assess whether a set of distinctive clinical features could be formulated that would help non-experts make more accurate diagnoses of EB. The premise was that, although a single clinical feature might not be pathognomonic for any one particular form of EB, grouping several features together might increase the diagnostic accuracy in distinguishing between the different subtypes of EB. Thus emerged a “clinical diagnostic matrix” that lists 19 different recordable metrics (derived from history and examination), with the vision that

certain sets of these grouped metrics could help steer the clinician to just one of the 9 major clinical diagnostic subtypes of EB, thereby generating a single most likely diagnosis. The authors tested the matrix in 74 genetically characterised cases of EB and found high concordance rates (matrix/molecular diagnostics) as well as very good diagnostic agreement between clinicians using the matrix. Inevitably, of course, such a reductionist approach is bound to have some inherent weaknesses, and it was clear that trying to apply the matrix to individuals less than 6 months of age led to loss of diagnostic discrimination and value. Nevertheless, in older subjects, this first study does appear to have diagnostic merit. The next step will be for other dermatologists around the world to try out the matrix on their patients, old and new, to see whether their own observations validate the initial findings. Thereafter, generating an online version of the clinical diagnostic matrix is likely to provide both a useful resource for future refinements to the sets of diagnostic metrics, as well as the generation of considerable data of global epidemiological importance.

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### **Conflicts of interest**

J.A.M. is the Consultant lead for the U.K. National Diagnostic Epidermolysis Bullosa Laboratory and contributed to the molecular diagnostics reported in the linked article.

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